Gamma-Spectrum Indicator

radiation energy. The source being investigated is placed in the chamber center in a cavity insulated from both cylinders. A ratio between the difference and the sum of the half-chamber currents is measured with different radiation energies. The instrument calibration curve is obtained from a number of known monochromatic sources; the energies of unknown gamma-radiation sources are determined by these curves; at an energy over 1.2 Mev, the indicator is not more sensitive to the energy variation. At lower energies, the instrument error does not exceed $\pm$20 kev. The activity of samples should be about 10 microcuries.

L.V.M.

ESTULIN, I.V.

4059
THE POLARIZATION-DIRECTION CORRELATION OF SUCCESSIVE GAMMA-RAY QUANTA FROM Co^{60} AND Na^{24}.
I. V. Estulin, V. S. Pozov, and E. F. Chukreev (Moscow State Univ.). Soviet Phys. JETP 3, 866-70(1957) Jan

An apparatus for observing the correlation of polarization and directions of propagation of successive gamma-ray quanta is described. The polarization sensitivity of this apparatus was determined experimentally and measurements were carried out for gamma-ray quanta of Co^{60} and Na^{24}. The first two excited states of Ni^{60} and Mg^{24} are shown to have even parity. (auth)

ESTULIN, I.V.

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SOFT γ-RAYS FROM THE CAPTURE OF THERMAL NEUTRONS BY NUCLEI. I. V. Estulin, L. F. Kalinki, and A. S. Melioransky (Moscow State Univ.). Nuclear Phys. 4 91-111(1957) Aug.

A luminescent spectrometer was used to measure the energies and absolute intensities of the γ quants emitted by Co^{59}, Rh^{103}, I^{127}, Sm^{149}, Au^{197}, and Hg^{198} nuclei following the capture of thermal neutrons. It is shown that the γ lines in the 50 to 600 kev energy range can be ascribed to transition from the lower excited states of the investigated nuclei. A description of the apparatus and method of measurement is presented. (auth)

ESTULIN, I. V.

Distr: 4E3d

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GAMMA QUANTA EMITTED BY I, Rh AND Co NUCLEI IN THERMAL NEUTRON CAPTURE, by I. V. Estulin, I. F. Kolinkin, and A. S. Melioranskii (Moscow State Univ.). Soviet Phys. JETP 4, 752-4(1957) June.

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Estulin I.V.

AUTHOR ESTULIN, I.V., KALINKIN, L.F., MELIORANSKIY, A.S. 56-5-7/55

TITLE The Soft γ-Radiation Emitted By Nuclei at the Capturing of Thermal Neutrons.
(Myagkoye γ-izlucheniye, ispuskayemoye yadrami pri zakhvate teplovykh neytronov.-Russian)

PERIODICAL Zhurnal Eksperim. i Teoret. Fiziki 1957, Vol 32, Nr 5, pp 979-992 (USSR)

ABSTRACT The paper under review describes the measurement of the energy and of the absolute yields of the γ-quanta (in the energy interval from 50 K keV to 500 keV) which are emitted by nuclei at the capturing of thermal neutrons. These measurements were conducted by means of a monocrystal luminescence spectrometer.

The first chapter of the paper under review deals with the geometrical conditions of the experiment and of the luminescence spectrometer. In this experiment, a physical experimental reactor with heavy water was used as source for the neutrons. The collimated bundle of the thermal neutrons, brought out of the protections of the reactor, had an intensity of $\sim 10^7$ neutrons/cm^2 sec. In the luminescence spectrometer a photoelectric amplifier C with a cylindrical NaJ(T1) crystal was used.

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56-5-7/55

The Soft γ-Radiation Emitted By Nuclei at the Capturing of Thermal Neutrons.

The second chapter of the paper under review deals with the methods applied in the measurements of the γ-spectra. The spectrum of the impulses (as observed in pressence of a target in the neutron bundle), was measured at open neutron bundle (N_0) and also at a bundle which was screened by a B_4C-layer of a thickness of 0.3 g/cm^2 at the exit of the neutron collimator (N_1). For practical purposes, the existence of the target did not affect N_1.

The third chapter of the paper under review contains a detailed discussion of the results of the measurement for different nuclei. With regard to cobalt, one notices in the impulse spectrum for a Co_2O_3 target two not completely dissolved peaks with the energies of 226 $\pm$ 4 and 276 $\pm$ 4 keV. They probably are photopeaks caused by γ-quanta of the same energies. For the intensity of the γ-lines, the following values were obtained: n_{226} = (23 $\pm$ 4) % and n_{276} = (23 $\pm$) %. The energies of the γ-transitions obtained for Co in this context coincide with the results of other investigations. Finally, the paper under review

AUTHORS: Estulin, I. V., Chernov, G. M., Pastukhova, Z. V. SOV/56-35-1-9/59

TITLE: On the Mo^{99}-Decay Scheme (O skheme raspada Mo^{99})

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol 35, Nr 1, pp 71 - 77 (USSR)

ABSTRACT: In a number of earlier papers the decay scheme of Tc^{99} was already investigated at excitation energies of 140 and 142 keV (Refs 1-3), 180 and 922 keV (Refs 5-7), and β-transitions of Mo^{99} (Refs 1,5,8). In the present paper the authors deal with the investigation of the angular correlations of the 742 - 180 keV-γ-quanta which are emitted at the decay of Mo^{99}. The decay scheme is given in figure 1(levels: 922, (780), (509), 180, 142, 140 keV). Figure 2 is a schematic representation of the measuring arrangement used. It consists essentially of two luminescence counters with stilb crystals of 20 mm thickness and a photomultiplier FEU -19; the coincidence had a resolving power of $\tau = 3.10^{-8}$sec. The luminescence crystals were housed in lead containers of 3 mm thickness. Control

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tests were carried out with a Cs^{137} source. Before the window of the lead containers there were lead filters of 1 mm thickness. Results for the transitions 922-180-0 keV (a_2 = coefficient of angular correlation, $W(\theta)$ = correlation function):

			90°	140°	165°
3/2(D)5/2(Q)9/2	a_2 = -0,0714	$W(\theta)/W(\pi/2)$:	1,00	0,95	0,91
3/2(Q)7/2(D)9/2	-0,0716		1,00	0,94	0,90
7/2(D)7/2(D)9/2	-0,0667		1,00	0,94	0,91
5/2(Q)9/2(D)9/2	-0,119		1,00	0,90	0,84
5/2(D)7/2(M1+E2)9/2	$-0,17 < a_2 < +0,32$				
experiment	$-0,07 \pm 0,015$		1,00	$0,93 \pm 0,02$	
				$0,92 \pm 0,02$	

For δ^2, i.e.the ratio of the emission intensities E2:M1 it holds that

$(1+\delta^2)a_2 = 0,050+0,097\delta^2+ 0,486\delta$ The chemical separation of Tc^{99m} showed that the β-transition in Mo^{99} with E_β=1,23 MeV leads to an isomeric equilibrium in Tc^{99} and $(7\pm1)\%$ of the 140 keV intensity is not connected with the isomeric transition. In conclusion the authors thank I.S.Shapiro

for discussing results. There are 5 figures, 1 table, and 17 references, 5 of which are Soviet.

ASSOCIATION: Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta (Institute of Nuclear Physics of Moscow State University)

SUBMITTED: February 27, 1958

Card 3/3

21(0), 24(5)

AUTHORS: Kalinkin, L. F., Meliorunskiy, A. S., Estulin, I. V.

SOV/56-35-3-6/

TITLE: γ-Radiation of the Radiation Capture of Thermal Neutrons by Mo^{95}, Ag^{107}, Te^{123} and Cs^{133} (γ-izlucheniye radiatsionnogo zakhvata teplovykh neytronov yadrami Mo^{95}, Ag^{107}, Te^{123} i Cs^{133})

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol 35, Nr 3, pp 592 - 598 (USSR)

ABSTRACT: The present paper is a continuation of an earlier one (Ref 1) dealing with investigations of γ-radiation emitted by nuclei during the radiation capture of thermal neutrons. Measurements were carried out within the range of γ-energies of 20 ÷ 1000 keV. The modernized reactor TBP of the AS USSR (flux ~10^8 neutrons /sec.cm^2) served as a neutron source. As detector for γ-radiation a single-crystal luminescence spectrometer (NaJ-crystal, 30 mm diameter, 19,7 mm height) was used: a pulse amplifier FEU-11, and a single-

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γ-Radiation of the Radiation Capture of Thermal Neutrons [illegible]
by Mo^{95}, Ag^{107}, Te^{123} and Cs^{133}

channel analyzer operated at a counting rate of $\sim 10^5$ pulses /sec. Investigations were carried out of (n,γ) reactions on Ag,Sn,Te,Cs,W,Tl (X-ray-K-emission at the corresponding energies of 22,[illegible],47, 51, 59,72 keV), and further Te^{125} (159 keV), Hg^{203} (279 keV), Cr^{51}(323 keV), the γ-radiation of the reaction $B^{10}(n,\alpha)Li^{7}$ (480 keV), Cs^{137}(662 keV), Nb^{95}(762 keV) and Zn^{65} (γ-energy: 1120 keV). The resolving power η of the spectroscope in the range E_γ=279-1120 keV obeys the formula $\eta=(240/\sqrt{E_\gamma})+ 0{,}2\,[\%]$. Figure 1, in a diagram for 2 NaJ-crystals of different size, shows the dependence of spectrometer efficiency at the photopeaks of E_γ in the energy interval investigated. In conclusion, the results obtained by measurements are discussed separately for the nuclei investigated of molybdenum, silver, tellurium, and cesium. In a table the values obtained are shown clearly and partly compared with the results obtained by other authors (Refs 10, 11,15).

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The energy E_γ [keV] of the respective element is in each case compared with the number [%] of the γ-quanta emitted per captured neutron. The following are some of the results obtained:
Mo^{96}: E_γ=770± 10:(91± 14)%; 840± 10:(43± 8)%; Ag^{108}: 22± 2: (X-ray emission)(10± 6)%; 117± 3:(9± 2)%; Te^{124}: 605± 10:(58± 9)%; 725± 10:(17± 4)%; Cs^{184}: 120± 3:(20± 3)%; 184± 3:(9± 2)%. Finally, the authors thank I.S.Shapiro for the interest he displayed in the work and for discussing results; they further express their gratitude to S.A.Gavrilov, A.P.Shilov, and his collaborators, attendants of the physical reactor, as well as to Ya.A.Kleyman, A.M.Safronov, and V.F.Tsarakayev for assisting in carrying out the experiments.There are 6 figures, 1 table, and 15 references, 8 of which are Soviet.

γ-Radiation of the Radiation Capture of Thermal Neutrons SOV/56-35-3-[illegible]
by Mo^{95}, Ag^{107}, Te^{123} and Cs^{133}

ASSOCIATION: Nauchno-issledovatel'skiy institut yadernoy fiziki MGU
(Scientific Research Institute for Nuclear Physics,
Moscow State University)

SUBMITTED: April 5, 1958

Card 4/4

YAKOVLEV, Konstantin Pavlovich. Prinimal uchastiye ESTULIN, I.V., kand.fiz.-matem.nauk, starshiy nauchnyy sotrudnik. MLODZEYEVSKIY, A.B., prof., red.; KRYUCHKOVA, V.N., tekhn.red.

[Lecture demonstrations in physics] Lektsionnye demonstratsii po fizike. Pod red. A.B.Mlodzeevskogo. Moskva, Gos.izd-vo fiziko-matem.lit-ry. No.9. [Atomic structure and nuclear processes] Stroenie atoma i iadernye protsessy. 1959. 140 p. (MIRA 14:4)

(Physics--Experiments)

21(1), 21(7)

AUTHORS: Kalinkin, L. F., Melioranskiy, A. S., Estulin, I. V.

SOV/56-36-5-75/76

TITLE: Some γ-Transitions in J^{128} and in Neodymium Isotopes (Nekotoryye γ-perekhody v J^{128} i izotopakh neodima)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 36, Nr 5, pp 1613-1614 (USSR)

ABSTRACT: By means of a singlecrystal spectrometer (NaJ(Tl)) the authors of the present "Letter to the Editor" investigated the γ-radiation occurring during the radiation capture of thermal neutrons in iodine and neodymium isotopes. A report concerning the measuring method has already been published (Refs 1, 2). Results: J^{128} (investigations within the range of 20 - 400 kev): 28 ± 2 kev line, intensity $(23\pm6)\%$, a characteristic K-emission caused by internal γ-conversion on electrons of the K-shell. 135 ± 3 kev line, intensity $(20\pm4)\%$, very probably an E2-transition. 158 ± 4 kev line, $(7.5\pm 1.5)\%$, very probably a M2-transition. The high intensities (the data given in % refer to the captured

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neutron) indicate that, in the case of the transitions, such occurring among lower excited levels must be concerned. Neodymium isotopes: Investigations on Nd_2O_3-target; identification of γ-lines by means of neodymium target (natural mixture of isotopes with impurities of other rare earths with large neutron capture cross section), comparison between results obtained and those of other publications, e. g. by Sklyarevskiy et al. (Ref 6). The following was found:

Line [kev]	γ-intensity (natural mixture)	identification (of γ-line)	γ-intensity (isotope)
182±3	2.1±0.4		
330±10	23±4	Sm^{150}	67
445±10	25±5	Sm^{150}	40
		Nd^{146}	>40
610±10	20±4	Sm^{150}	16
		Nd^{146}	~100

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695±10	63±10	Nd^{144}	85±13
840±10	15±3	Nd^{144}	20±4

There follows a number of further data concerning the lines found, as e. g. that the 695- and the 445 kev line originate from a transition from the first excited to the ground state of Nd^{144} and Nd^{146} respectively, and that for the 840- and the 610 kev line the energy ratio between these states and the first levels amounts to $E_2/E_1 = 2.2 \div 2.4$, which is characteristic of the oscillation levels of spherical even-even nuclei. The data were obtained from a number of publications referred to. There are 1 table and 8 references, 6 of which are Soviet.

ASSOCIATION: Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta (Institute of Nuclear Physics of Moscow State University)

SUBMITTED: March 15, 1959

Estulin, I. V.

pa

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81985
S/120/60/000/03/012/055
E032/E514

AUTHORS: Melioranskiy, A.S., Estulin, I.V. and Kalinkin, L.F.

TITLE: Stability of Spectrometric Photomultipliers at High Counting Rates

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, No 3, pp 45-47

ABSTRACT: Fast and non-overloading single channel analyser and amplifier (Melioranskiy and Ostanevich, Ref 2) were used to study the overloading properties of Soviet spectrometric photomultipliers FEU-29, FEU-S and FEU-11. A sodium iodide crystal was used as the scintillator and the dead time of the electronics was 3 μsec. The determination of the change in the characteristics of the spectrometer (stability, resolving power, calibration, etc.) was carried out under two conditions. In the first (linear) case the amplitude of pulses due to gamma rays from Co^{60}, Zn^{65} and Cs^{137} was kept within the linear calibration. The spectrometer was then overloaded by increasing the counting rate. In the second (nonlinear) case a determination was made of the spectrometer

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E032/E514

Stability of Spectrometric Photomultipliers at High Counting Rates

characteristics for the Ba K-radiation photopeak emitted by Cs^{137}. The intensity of this photopeak was ten times smaller than the intensity of the 0.66 MeV line and the pulses due to this line were well beyond the linear characteristics of the instrument. In this way the lower energy pulses were looked at while the spectrometer was being amplitude overloaded by the 0.661 MeV line. The results obtained are shown in Fig 1. The continuous curves represent the energy calibration , and the dotted curves the resolution. Curves are marked as follows: FEU-29: 1,2 - linear conditions; 3,4 - nonlinear conditions; FEU-S: 5,6 - nonlinear conditions; FEU-11: 7,8 - nonlinear conditions. The vertical axis is in relative units and the horizontal axis is in pulses/sec x 10^3. The best results were obtained for the FEU-11 photomultiplier which is of the venetian blind type. This photomultiplier will tolerate a maximum
Card 2/3 counting rate of 10^5 pulses/sec.

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S/120/60/000/03/012/055
E032/E514

Stability of Spectrometric Photomultipliers at High Counting Rates

There are 1 figure and 3 Soviet references.

ASSOCIATION: Nauchno-issledovatel'skiy institut yadernoy fiziki MGU (Scientific-Research Institute for Nuclear Physics of the Moscow State University)

SUBMITTED: April 16, 1959

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02414

S/056/60/038/03/12/033
B006/B014

24.6600

AUTHORS: Melioranskiy, A. S., Estulin, I. V., Kalinkin, L. F., Kudinov, B. S.

TITLE: Excited States of Cs^{134}

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 38, No. 3, pp. 758-764

TEXT: In the article under review, the authors used a coincidence-luminescence spectrometer to study the cascade γ-transitions induced in cesium nuclei by thermal neutron capture. Fig. 1 shows a block diagram of the spectrometer, which uses photomultipliers of the types FEU-13 and FEU-11 with NaI(Tl) crystals. The neutrons with which the 20 mm thick CsF target (0.25 g) was bombarded stemmed from the TVR-2 reactor of the AS USSR. Fig. 4 represents the pulse spectra (number of pulses per minute as a function of energy) and the energy distributions of the number of coincidences per minute. Besides the γ-peaks, the coincidence spectra exhibited also a peak with (31 ± 2) kev, which corresponds to an X-ray emission of the Cs atom. This emission is ascribed primarily to an internal conversion of the γ-quanta on the K-shell

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Excited States of Cs^{134}

S/056/60/038/03/12/035
B006/B014

and partly to the photoeffect of the γ-quanta in eigenabsorption in the target. To verify the measured internal conversion coefficient α_K a control experiment with Cs^{134m} ($T_{1/2}$ = 3.1 hours) was made. A comparison of the peak areas at 127 and 31 kev showed that $\alpha_K = 2.8 \pm 0.3$, which is fairly consistent with the theoretical value 2.82 obtained for an E3 transition. For the purpose of studying the cascade γ-transitions four series of experiments were carried out, the results of which are listed in Table 1. The following lines were found in addition to that with 31 ± 2 kev mentioned above: 63 ± 2, 75 ± 5, 120 ± 3, 138 ± 4, 184 ± 4, 195 ± 260, 215 ± 4, 258 ± 4, and 310 ± 5. These results are discussed in great detail, and some data concerning the probable polarities are given. The 75-kev transition, for instance, may be a transition of the type E2 or M1+E2. Also, the intensities of the individual transitions are indicated. The 63-kev and 120-kev transitions are compared with theory in Table 2. Fig. 4 illustrates the nuclear level scheme, which is fully explained. The following spins and parities of the levels are given: 0 (4^+), 63 kev (2^+), 137 kev (8^-), 184 kev (3^+), 258 kev (4^+), and 320 kev. (3^+, 4^+). There are 4 figures, 2 tables, and 11 references, 6 of which are Soviet.

Card 2/3

Excited States of Cs^{134}

S/056/60/038/03/12/033
B006/B014

ASSOCIATION: Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta (Institute of Nuclear Physics of Moscow State University)

SUBMITTED: September 19, 1959

Card 3/3

S/188/61/000/006/007/007
B108/B102

AUTHORS: Gadzhokov, V. I., Petushkov, A. A., Estulin, I. V.

TITLE: Device for β-γ correlation measurement with recording of the circular polarization of the gamma quanta

PERIODICAL: Moscow Universitet. Vestnik. Seriya III. Fizika, astronomiya, no. 6, 1961, 76 - 82

TEXT: The circular polarization of the gamma quanta from a beta-decay depends on the angle Θ between to departing β-electron and gamma quantum: $W(\Theta) = 1 + A \frac{v}{c} \cos\Theta$, where v = electron velocity. The circular polarization can be observed in β-γ-coincidences. The authors designed a device for the measurement of the asymmetry coefficient A in the β-γ correlation. The circular polarization of the gamma quanta is detected by measurement of the Compton scattering. The direction of polarization of the electrons in the scatterer is frequently changed in order to remove the slow drift of the electronics and of the radiation detectors luminescence spectrometers. The electrons from the radioactive source

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Device for β-γ correlation...

are recorded by means of a 2-mm thick anthracene crystal; the gamma quanta are scattered from a magnetic cylinder and strike a 4-by-4-mm NaI(Tl) crystal. The coincidence circuit has a time resolution of 3.10^{-8} sec. An autocommutation unit controls the automatic operation of the device. The numbers of overall ($N_{source} + N_r$) and of random coincidences (N_r) at the specific directions of the magnetic field in the scatterer are stored in the respective subcounters. Detailed descriptions of the rapid-operation pulse analyzer and of the autocommutation unit used in the described device are given. The automatic operation of this device reduces the fluctuations of the partial counts and simplifies evaluation. The device is very useful in work with short-lived radiation sources. Yu. V. Gaponov (ZhETF, 36, 193, 1959) and A. S. Melioranskiy (PTE, no. 3, 44, 1961) are mentioned. There are 3 figures and 7 references: 5 Soviet and 2 non-Soviet. The reference to the English-language publication reads as follows: Hartwig G., Schopper H. Phys. Rev. Lett., 4, 293, 1960.

Card 2/4

KALINKIN, L.F.; MELIORANSKIY, A.S.; ESTULIN, I.V.

Remarks on excited energy states of Ho^{166} and Cs^{134} odd-odd nuclei. Izv. AN SSSR. Ser. fiz. 25 no.9:1124-1126 '61. (MIRA 14:8)

1. Nauchno-issledovatel'skiy institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta im. M.V. Lomonosova.
(Holmium--Isotopes)
(Cesium--Isotopes)
(Nuclear reactions)

MELIORANSKIY, A.S.; ESTULIN, I.V.; KALINKIN, L.F.

Studying the lower excited states of Mn^{56} and Ho^{166} by measuring the coincindences of cascade γ-quanta. Zhur. eksp. i teor. fiz. 40 no.1:64-71 Ja '61. (MIRA 14:6)

1. Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta.
(Manganese--Spectra) (Holmium--Spectra) (Nuclei, Atomic)

PETUSHKOV, A.A.; ESTULIN, I.V.

Measuring the circular polarization of the gamma quanta emitted in β-decay of Nd ^{147}. Zhur. eksp. i teor. fiz. 40 no.1:72-75 '61. (MIRA 14:6)

1. Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta i Institut obshchey i neorganicheskoy khimii AN SSSR.
(Neodymium--Decay) (Gamma rays)

ESTULIN, Isay Veniaminovich; ZHABOTINSKIY, Ye.Ye., red.; FRANK, I.M., red.; MURASHOVA, N.Ya., tekhn. red.

[Radioactive radiations]. Radiactivnye izlucheniia. Moskva, Fizmatgiz, 1962. 260 p. (Praktikum po iadernoi fizike, no.1). (MIRA 16:4)

1. Chlen-korrespondent AN SSSR (for Frank).
(Radioactivity)

S/056/62/042/005/002/050
B125/B108

AUTHORS: Kalinkin, L. F., Melioranskiy, A. S., Estulin, I. V.

TITLE: Cascade γ-quanta in the reaction $Rh^{103}(n,\gamma)\ Rh^{104}$

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42, no. 5, 1962, 1149 - 1157

TEXT: A two-crystal luminescence $\gamma\gamma$-coincidence spectrometer was used to study γ-quantum cascades in the reaction $Rh^{103}(n,\gamma)\ Rh^{104}$ with thermal neutrons. Coarse rhodium wrapped in aluminum foil served as a target. Results are shown in Table 1. Fig. 1 shows typical spectra of γ-quanta from $Rh^{103}(n,\gamma)\ Rh^{104}$. The multipole types were determined for the following transitions: 35 kev(M1+E2), 51 kev(M1), 88 kev(M1+E2 or E2), 98 kev(M1), 99 kev(E2), 133 kev(M1 or E2), 135 kev (M1 or E2). The coincidences detected are indicative of the existence of two new Rh^{104} levels with the excitation energies 184 and 272 kev with transitions to and from these levels. Direct transitions from the initial state (i.e. when a neutron is captured) go to levels with energies of 440, 580, 760 and 900 kev arise. The chain of transitions detected in the coincidences

Card 1/2

Cascade γ-quanta in the...

with 98 kev γ-quanta is related to the ground state and not to the isomeric state. The transition belonging to the newly discovered peak with 230 kev does not conform with the other levels. For this reason a 500 kev level is introduced conditionally. A 35 kev γ-line was detected in the spectral regions V and VI which is indicative of a ∿183 kev transition. Direct transitions of comparable intensities must be of the type E1. The interpretation of the excited levels of Rh^{104} is difficult because of the large number of neutrons and protons in vacant nuclear shells. There are 2 figures and 2 tables. The most important English-language reference is: Nuclear Data Sheets, National Academy of Sciences-National Research Council 1960 (US Government Printing Office, Washington D.C.).

ASSOCIATION: Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta (Institute of Nuclear Physics of Moscow State University)

SUBMITTED: November 5, 1961

Card 2/2

S/056/62/042/005/004/050
B125/B108

AUTHORS: Petushkov, A. A., Estulin, I. V.

TITLE: Nuclear matrix elements in the β-transition of La^{140}

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42, no. 5, 1962, 1166 - 1170

TEXT: An experimental arrangement with automatic measuring described in an earlier paper (A. A. Petushkov, I. V. Estulin, ZhETF, 40, 72, 1961) was used to measure the angular $\beta\gamma$-correlation $\omega(W,\theta)$ in La^{140} by separation of the circular polarization of the 1.6 Mev γ-quanta and of the electrons of the β-spectrum with a maximum energy of 2.2 Mev. The coincidences of scattered γ-radiation (initial energy 1600 kev) and of β-electrons (energies W from 3.9 m_0c^2 to 5.3m_0c^2) were measured. The mean scattering angle $\bar{\vartheta}$ of γ-rays was 50°, the mean angle $\bar{\theta}$ of emission of β-particles was 160°. With $W = 4.2$; $(\bar{v}/c) = 0.97$; $\left|\overline{\cos\theta \cdot d\sigma_c/d\sigma_0}\right| = 0.39$, the result $\omega(\bar{W} = 4.2; \bar{\theta} = 160°) = 0.15 \pm 0.09$ follows from the measuring effect $\varepsilon = (-0.90 \pm 0.53)\%$. From this value of ω and from the experimental

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Nuclear matrix elements in the...

value B = 0.078 ± 0.023 with the correction coefficient C = 2.2 ± 0.4, the following absolute values of nuclear matrix elements are obtained: $|\int B_{ij}|/R = (5.1 \pm 0.26)\cdot 10^{-2}$, $|\int \vec{r}|/R = 4.5\cdot 10^{-2}$; $|\int i[\vec{\sigma r}]|/R = 7.25\cdot 10^{-2}$; $|\int i\vec{\alpha}| = 3.1\cdot 10^{-2}$, where R is the radius of the nucleus in units of the Compton electron wavelength. After summarizing appreciation of experimental data and present results, the large value of log ft in the β-transition of La^{140} is not explained by those selection rules according to which the matrix elements of the first rank $\int \vec{r}$ and $\int i[\vec{\sigma r}]$ are small as compared with the matrix element $\int B_{ij}$. This large value follows from the shortening effect as a result of the selection of the phases of the matrix elements. To determine the nuclear matrix elements of the La^{140} β-transition accurately, experimental errors must be reduced considerably. There are 3 figures. The most important English-language reference is:
T. Kotani, Phys. Rev., 114, 795, 1959.

ASSOCIATION: Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta (Institute of Nuclear Physics of Moscow State University)

Card 2/3

S/056/62/042/005/004/050
B125/B108

Nuclear matrix elements in the...

SUBMITTED: November 25, 1961

Card 3/3

S/056/62/043/004/035/061
B108/B102

AUTHORS: Estulin, I. V., Kalinkin, L. P., Meliboranskiy, A. S.

TITLE: Measurement of γγ-coincidences in the reaction $Ag^{107}(n,\gamma)Ag^{108}$

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 4(10), 1962, 1378-1384

TEXT: γγ-coincidences were measured with a two-crystal (NaI(Tl)) spectrometer according to a method described earlier (A. S. Meliboranskiy et al., ZhETF, 38, 756, 1960; 40, 64, 1961; L. P. Kalinkin et al., ZhETF, 42, 1140, 1962). The energies and intensities of the gamma lines observed by the authors are given in Table 2. The measurements of coincidences were used to determine the energy level diagram of Ag^{108} (Fig. 3). There are 3 figures and 2 tables.

ASSOCIATION: Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta (Institute of Nuclear Physics of Moscow State University)

S/056/62/043/004/035/061
B108/B102

Measurement of γγ-coincidences...

PRESENTED: April 21, 1962 (initially)
July 13, 1962 (after revision)

Table 2. Legend: second and fourth column show intensities n_γ, per captured neutron. Asterisk indicates gamma line intensities determined with single crystal spectrometer.

Card 2/4 2

KALINKIN, S. F.; ESTULIN, I. V.; MELNORANSKIY, A. S.

"Excited States of Rh^{104}."

"Gamma Radiations in the Reaction $Ag^{109}(n,\gamma)Ag^{110}$."

reports submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22 Feb 64.

MGU (Moscow State Univ)

ESTULIN, I.V.; KALINKIN, L.F.; MELIORANSKIY, A.S.

Decay of Rh^{104*} ($T_{1/2}$ = 4.4 min.). Izv. AN SSSR. Ser. fiz. 28 no.1:93-97 Ja '64. (MIRA 17:1)

1. Nauchno-issledovatel'skiy institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta.

ACCESSION NR: AP4024040 S/0048/64/028/002/0227/0228

AUTHOR: Kalinkin, L.F.; Estulin, I.V.; Melioranskiy, A.S.

TITLE: Gamma radiation emitted in the $Ag^{109}(n,\gamma)Ag^{110}$ reaction /Report, Fourteenth Annual Conference on Nuclear Spectroscopy held in Tbilisi 14 to 22 Feb 1964/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.28, no.2, 1964, 227-228

TOPIC TAGS: neutron capture γ-ray, neutron capture reaction Ag^{109}, Ag^{110}

ABSTRACT: Hitherto there has been only one study of the neutron capture γ-radiation from Ag^{109} (V.V.Sklyarevskiy, E.P.Stepanov and B.A.Obinyakov, Atomnaya energiya 5, 454,1958). The purpose of the present work was to check and amplify the earlier data. In the present work the γ-radiation from the $Ag^{109}(n,\gamma)Ag^{110}$ reaction was recorded by means of a scintillation spectrometer in which there were used 10, 20 and 40 mm thick NaI(Tl) crystals coupled to a louver type photomultiplier. The target was metallic silver enriched to 98.8% Ag^{109}. The silver in the amount of 45.7 mg was deposited electrolytically onto a thin aluminum backing in the form of a 20 mm diameter disc. The spectra were recorded using different Pb + Sn + Zn absorbers; one typical singles spectrum is reproduced. The 16 γ-lines (including 22 keV K x-

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ACCESSION NR: AP4024040

rays) observed in the single crystal measurement are tabulated. Analysis of the results of γ-γ coincidence measurements did not reveal any γ-cascades including gammas with the intensities indicated in the table. Hence apparently most of the tabulated lines are actually groups of lines with close energies not resolved by the scintillation spectrometer. The present data are not sufficient for constructing a level diagram for Ag^{110}. Orig.art.has; 1 figure and 1 table.

ASSOCIATION: Nauchno-issledovatel'skiy institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta im.M.V.Lomonosova (Scientific-Research Institute of Nuclear Physics, Moscow State University)

SUBMITTED: 23Sep63 DATE ACQ: 08Apr64 ENCL: 00

SUB CODE: NS NR REF SOV: 010 OTHER: 002

Card 2/2

MELIORANSKIY, A.S.; KALINKIN, L.F.; ESTULIN, I.V.

Excited states of Rh^{104}. Izv. AN SSSR. Ser. fiz. 28 no.7: 1110-1117 Jl '64 (MIRA 17:8)

ACCESSION NR: AP4019251 S/0056/64/046/002/0807/0809

AUTHORS: Estulin, I. V.; Kalinkin, L. F.; Melioranskiy, A. S.

TITLE: Energy levels of the Rh-104 nucleus

SOURCE: Zhurnal eksper. i teor. fiz., v. 46, no. 2, 1964, 807-809

TOPIC TAGS: rhodium-104, level scheme, transition between levels, $\gamma\gamma$ coincidence, isomer decay, γ line intensity, Ritz combination rule

ABSTRACT: Additional data on the energy levels of Rh^{104} were obtained from recent published results on γ rays from Rh^{103} bombarded by neutrons and on the decay of the Rh^{104m} isomer. The level scheme and the transitions between levels were obtained by combined analysis of the results of the quantitative processing of measurements of coincidences between γ rays in defined energy regions (scintillation spectrometers) and the values of the γ-line energies in these regions (diffraction spectrometers). The γ-line intensities were

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ACCESSION NR: AP4019251

used to relate the γ transitions detected by using the different methods. The Ritz combination rule was used as a necessary condition. A more complete report is being prepared for publication. It is shown that in spite of the complexity of the level system, brought about by the pn interaction, many levels can be interpreted within the limits of the existing theories on the nature of the excited states and deformed nuclei.

ASSOCIATION: Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta (Nuclear Physics Institute, Moscow State University)

SUBMITTED: 17Jul63 DATE ACQ: 27Mar64 ENCL: 01

SUB CODE: PH NO REF SOV: 005 OTHER: 008

ACCESSION NR: AP4017157 S/0053/64/082/002/0253/0285

AUTHORS: Estulin, I. V.; Petushkov, A. A.

TITLE: Circular polarization of Gamma quanta emitted by atomic nuclei following Beta decay

SOURCE: Uspekhi fizicheskikh nauk, v. 82, no. 2, 1964, 253-285

TOPIC TAGS: Gamma quanta, circular polarization, Gamma quantum polarization, Beta decay, parity nonconservation, Beta transitions, allowed Beta transitions, singly forbidden Beta transitions, Gamma polarization measurement

ABSTRACT: This is a review of recent theoretical and experimental papers. The theoretical relations which are the basis of the experiments on the circular polarization of γ rays emitted after β decay are first presented. These include the angular correlation function between the electron (or positron) and the circular polarization,

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ACCESSION NR: AP4017157

the coefficients that depend on the characteristics of the transition, and the degree of circular polarization. The experimental procedures for measuring circular polarization of γ quanta are reviewed. A survey is then presented of the experimental data obtained through the middle of 1963 for both allowed and singly-forbidden β transitions. The experiments yield the absolute values and the phase relations of nuclear matrix elements for many nuclei. The need is mentioned of improving the accuracy of the data and for theoretical calculations of the nuclear matrix elements. The section headings are: 1. Introduction. 2. Fundamental theoretical relations. a. Circular polarization and character of the radiative transition. b. Circular polarization in allowed β transitions. 3. Measurement of circular polarization of γ quanta. 4. Survey of experimental data. a. Allowed β transitions. b. Singly forbidden β transitions. Orig. art. has: 12 figures, 23 formulas, and 12 tables.

ASSOCIATION: None

Card: 2/2

ACC NR: AP7000520 SOURCE CODE: UR/0048/66/030/011/1765/1767

AUTHOR: Grigorov, N. L.; Kalinkin, L. F.; Melioranskiy, A. S.; Nesterov, V. Ye.; Pryakhin, Ye. A.; Savenko, I. A.; Estulin, I. V.

ORG: none

TITLE: A study of high-energy γ-quanta at the upper limits of the atmosphere [Paper presented at the All-Union Conference on Physics of Cosmic Rays held in Moscow from 15 to 20 November 1965]

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 11, 1966, 1765-1767

TOPIC TAGS: gamma radiation, gamma counter, gamma detection, meteorologic satellite, cosmic ray telescope, scintillator, Cerenkov counter

ABSTRACT: The satellites Proton-1 and Proton-2 carried equipment designed to detect gamma rays with energies above 50 Mev and to measure their spectrum. The equipment (see Fig. 1) comprised a telescope formed by a γ-quanta converter consisting of a sandwiched plastic scintillator, and a Cherenkov counter with a radiator made from lead-containing glass which detected the energy and direction of gamma rays. The telescope detectors were placed inside a cover made of a scintillator plastic which protected the telescope from the noise of charged particles in selecting of anticoincidences. In addition to gamma radiation, the equipment was capable of registering pulses from other

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ACC NR: AP7000520

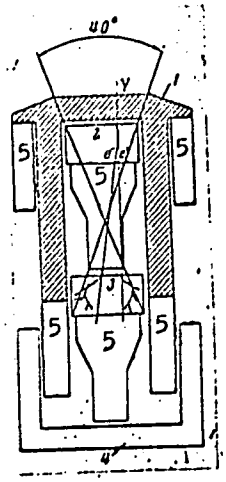

Fig. 1. Block diagram of the equipment

1 - Plastic scintillator; 2 - sandwich crystal; 3 - lead-containing glass; 4 - electronic circuits; 5 - photomultipliers.

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ACC NR: AP7000520

electrically neutral particles (neutrons for example), as well as the flow of charged particles with energies that exceeded the luminescence threshold of the Cherenkov counter radiator. The flow of γ-quanta with energies exceeding 5 Mev was approximately 2 x 10^{-3} $cm^{-2} \cdot sterad^{-1} \cdot sec^{-1}$; this value is in good agreement with the values obtained by other researchers. Orig. art. has: 3 figures. [WA-75] [IV]

SUB CODE: 04, 18/20/ SUBM DATE: none/ ORIG REF: 004/
OTH REF: 006

Card 3/3

ESTULIN, L. M.

May 48

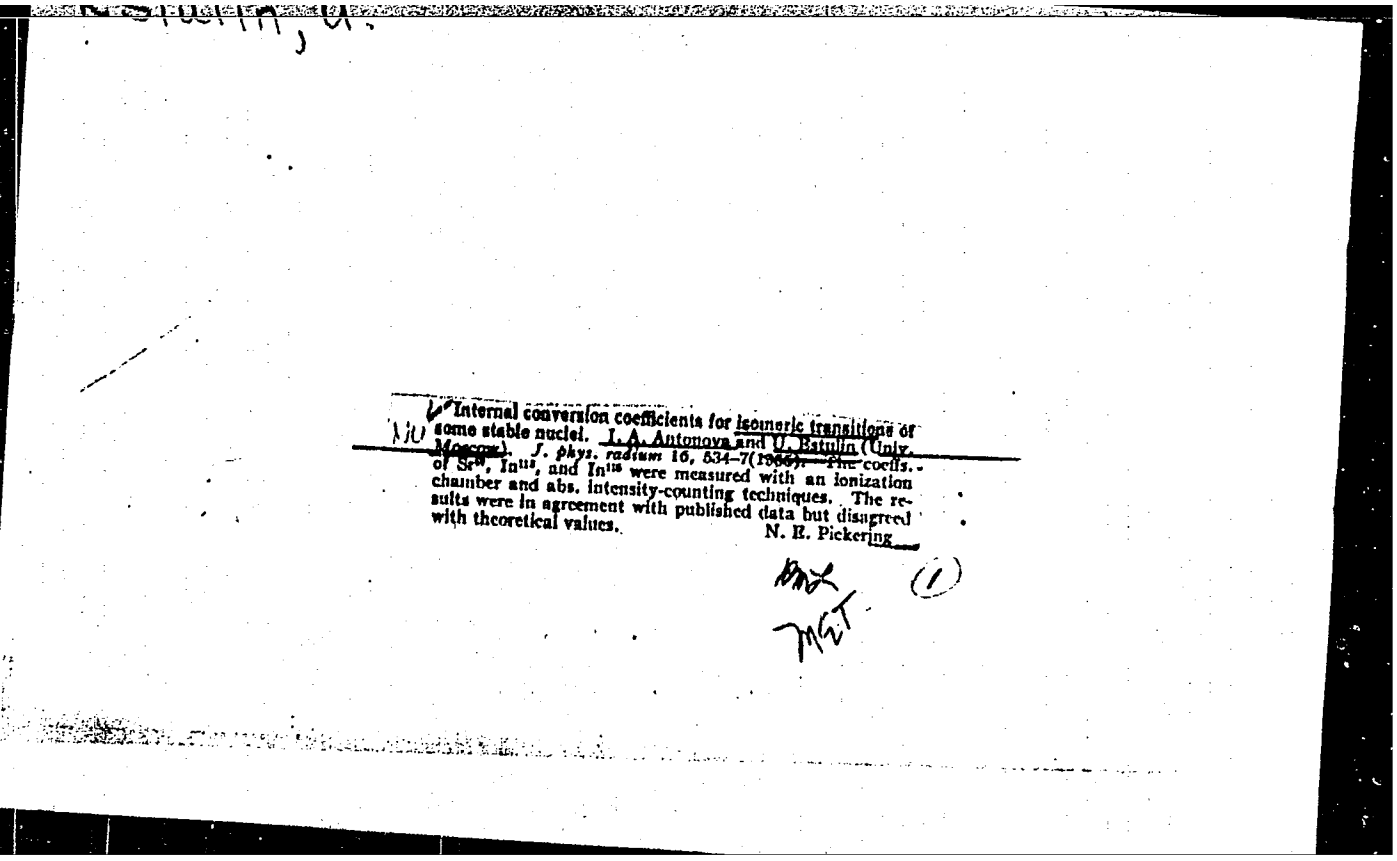
USSR/Electricity
Hydroelectric Plants
Efficiency, Industrial

"Stalingrad Hydroelectric Station in the Struggle for Earning Power," L. M. Estulin, Engr, 3 pp

"Elek Stants" No 5

In 1944, Stalingrad hydroelectric station ran at a loss of 7.7 million rubles. In 1947 profits were 2.3 million rubles. Describes methods by which result was achieved.

14/49T9



Internal conversion coefficients for isomeric transitions of some stable nuclei. L. A. Antonova and U. Batulin (Univ. Moscow). *J. phys. radium* 16, 534–7(1955). The coeffs. of Sr^{89}, In^{115}, and In^{116} were measured with an ionization chamber and abs. intensity-counting techniques. The results were in agreement with published data but disagreed with theoretical values.

N. R. Pickering

L 6889-65 EPA(s)-2/EWT(m)/EWP(q)/EWP(b) Pad/Pt-10 ASD(a)-5/ESD(gs) JD/
MJW/IW/JG

ACCESSION NR: AR4044234 U/0137/64/000/006/I083/I089

SOURCE: Ref. zh.Metallurgiya, Abs. 61509 67
66

AUTHOR: Estulin, V. G.; Svistunova, T. V.

TITLE: The influence of rare-earth elements on the structure and properties of nickel-chrome alloy
27 27 47 16

CITED SOURCE: Sb. Legirovaniye staley. Kiyev, Gostekhizdat USSR, 1963, 151-155

TOPIC TAGS: nickel based alloy, chrome containing alloy, rare earth, rare earth element

TRANSLATION: Studies the behavior of rare-earth metals in the process of smelting, the nature of their distribution in the alloy, and the influence of rare-earth metals on the structure of a solid metal. An investigation was conducted using the alloy EI437 (0.03-0.05% C, 21% Cr, 2.5-2.8% Ti, 0.8-1.0% Al, the rest - Ni). Individual additions of Ce, La, and Nd, and mischmetal were introduced in an amount of 1%. As a result of oxidation, the amount of rare-earth metal in the melt

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ACCESSION NR: AR4044234

decreases by 30-50% in 1 minute and by 80-90% in 9 minutes. The plasticity and heat resistance of the alloy are sharply lowered after the first minutes of holding of the melt with the rare-earth metal. An increase of the holding to 6-9 min leads at first to a restoration, and then to an essential increase, of these properties. Thus, the time of destruction of the alloy at 700° and a load of 23 kg/mm^2 is 250 hours; as a result of the introduction of mischmetal and holding of the melt for 1 min it drops to 40-50 hours, while with an increase of the holding to 9 min it increases to 950 hours. It is established by radiography that a large part of the rare-earth metal is in the alloy in the form of oxides, sulfide, nitrides, and others. With an increase of the holding of the melt these inclusions emerge to the surface and become slag. By autoradiography it is established that the rare-earth metal is distributed in the structure in the form of point inclusions throughout the grain (with a rare-earth-metal content of $\leq 0.02\%$). With a higher content of rare-earth metals the inclusions formed by them are located for the most part along the grain boundaries, which leads to a worsening of the properties. Bibliography: 7 references.

SUB CODE: MM, IC ENCL: 00

Card 2/2

ZORINA, A.V., starshiy inzhener; ESTULINA, A.I., inzh.; BULATOVA, A.M., inzh.; ALEKSEYEV, S.A., dotsent, red.; MIRNOVA, G.V., tekhn.red.

[Time norms for die and precision casting operations in foundries for general machinery manufacture] Obshchemashinostroitel'nye normativy vremeni na liteinye raboty pri lit'e pod davleniem i po vyplavliaemym modeliam. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.promyshl. 1959. 58 p. (MIRA 12:12)

1. Moscow. Nauchno-issledovatel'skiy institut truda. TSentral'noye byuro promyshlennykh normativov po trudu. 2. Nauchno-issledovatel'skiy institut tekhnologii i organizatsii proizvodstva aviatsionnoy promyshlennosti (for Zorina, Estulina, Bulatova).
(Die casting) (Precision casting)

ZORINA, A.V., starshiy inzhener; ESTULINA, A.I., inzh.; BULATOVA, A.M., inzh.; ALEKSEYEV, S.A., dots., red.; VLADIMIROVA, L.A., tekhn. red.

[Time norms established in the general machinery industry for die casting and precision casting operations]Obshchemashinostroitel'nye normativy vremeni na liteinye raboty pri lit'e pod davlenie i po vyplavliaemym modeliam. Moskva, Mashgiz, 1962. 57 p. (MIRA 15:10)

1. Moscow. TSentral'noye byuro promyshlennykh normativov po trudu. 2. Nauchno-issledovatel'skiy institut mashinostroyeniya i tekhnologii (for Zorina, Estulina, Bulatova).
(Die casting—Production standards)
(Precision casting—Production standards)

ZORINA, A.V.; ESTULINA, A.I., inzh.; BOGOSLOVSKIY, S.S., inzh. ; DEYEVA, N.A., inzh.; DYUKOVA, L.M., inzh.; MODEL', B.I., tekhn. red.; DEMKINA, N.F., tekhn. red.

[Time norms for machine and manual molding operations for iron, steel, and nonferrous metal founding in general machinery construction; batch and small-run production] Obshchemashinostroitel'nye normativy vremeni na mashinnuiu i ruchnuiu formovku liteinykh form dlia chugunnogo, stal'nogo i tsvetnogo lit'ia; seriinoe i melkoseriinoe proizvodstvo. Moskva, Mashgiz, 1962. 322p.
(MIRA 15:7)

1. Moscow. TSentral'noye byuro promyshlennykh normativov po trudu. 2. Nauchno-issledovatel'skiy institut aviatsionnoy tekhnologii (for all except Model', Demkina).
(Founding--Production standards)

L 13053-65 EWT(m)/EWA(d)/EWP(t)/EWP(b) ASD(m)-3 JD/MLK

ACCESSION NR: AT4046848 S/0000/64/000/000/0236/0242

AUTHOR: Banny*kh, O. A., Zudin, I. F., (Candidate of technical sciences); Egtulina, Ye. G., Dzugutov, M. Ya., Doronin, V. M., Topilin, V. V.

TITLE: Investigation of the phase composition and properties of chromium-manganese-aluminum steel

SOURCE: AN SSSR. Nauchny*y sovet po probleme zharoprochny*kh splavov. Issledovaniya staley i splavov (Studies on steels and alloys). Moscow, Izd-vo Nauka, 1964, 236-242

TOPIC TAGS: steel structure, steel phase composition, alloy steel, steel plasticity, steel oxidation, chromium steel, manganese steel, aluminum steel

ABSTRACT: X-ray and microstructural analyses were used to examine the structure and phase composition of 8 samples of carbon (0.5%)- manganese (15%)- aluminum (3%)- based steel with chromium (14-25%), nickel (to 3%) and copper (2.61%) additions in an attempt to develop steel brands with enhanced scale resistance. The 18-19 mm long rod-shaped samples were rolled at 1180C from 45-kg steel ingots prepared by pouring melts directly into molds at 1500-1560C. The integral intensity of the austenitic (111) line, ferritic (110) line, and (419),(212), and (411) δ-phase lines were determined using an iron-emission

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L 13053-65
ACCESSION NR: AT4046848

URS-50I apparatus for angles of 27-30° in samples quenched from 1100C and aged at 700C for 40 hrs. The effect of hardening at 550-800C, and temperature (550-800C) and duration (to 100 hrs.) of aging on the microstructure and hardness was also investigated, and the scale-resistance was determined from weight gain by the previously described method of continuous weighing. The results show that: 1) treatment at 550-800C of steels with chromium contents in excess of 18% results in brittleness due to the formation of a σ-phase; 2) steel with less than 18% chromium retains adequate plasticity after aging at 700C; and 3) scale resistance at 900C is greater in samples with an aluminum content in excess of 2.5%, while aluminum additions at 1000C and chromium additions of 18-25% at both temperatures have little effect on scale resistance. Orig. art. has: 6 tables, 4 figures and 1 formula.

ASSOCIATION: None

SUBMITTED: 16Jun64 ENCL: 00 SUB CODE: MM

NO REF SOV: 005 OTHER: 001

Card 2/2

CHEMISTRY AND PHYSICAL CHEMISTRY OF REACTOR MATERIALS AND PROCESSES

"Investigation of the Zirconium Corner of the Zr-Ta-Nb Constitution Diagram," V. S. Yemel'yanov, Yu.G. Godin, and A. I. Estyukhin, Atomnaya Energiya, NO 2, February 1958, pp 161-165.

Metallographic and thermal analysis and measurements of the electric resistivity were used to determine the zirconium corner to 92-percent zirconium and a temperature of 1200° C of the triple system Zr-Ta-Nb. This system has limited solubility of tantalum and niobium in -zirconium (-phase), limited solubility of the tantalum, and the total solubility of the niobium in -zirconium, with an eutectoid decay of -solid solution and a three-phase eutectoid equilibrium betwwen the and zirconium.

Bibliography of 5 titles.

ELEKES, Istvan, dr.; ESZ, Karoly; JASZBERENYI, Karoly

The new charges for transportating wood materials and their effect. Faipar 10 no.2:46-55 F '60.

RADO, Janos, Dr.; ABRAHAM, Karola, Dr.; ESZEKI, Jozsef, Dr.

Simultaneous occurrence of congenital septal defect and cardiac infarct in old age. Orv. hetil. 98 no.39:1079-1081 29 Sept 57.

1. A Janos Korhaz-Rendelointezet (igazgato: Bakacs Tibor dr.) II. sz. Belosztalyanak (foorvos: Bencsath Aladar dr.) es Prosecturajanak (foorvos: Kallo Antal dr., az orvostudomanyok doktora) kozlemenye.

(CARDIAC SEPTUM, abnorm.
interventric. septal defect with myocardial infarct in aged, case report (Hun))
(MYOCARDIAL INFARCT, case reports
with interventric. septal defect in aged (Hun))

SZEKELY, Arpad, dr.; ESZEKI, Jozsef, dr.; MIKLOS, Gyorgy, dr.

Sporadic infectious hemorrhagic nephrosonephritis diagnosed in vivo. Orv.hetil. 100 no.52:1889-1892 D '59.

1. A Janos Korhaz es Rendelointezet (igazgato: Tako Jozsef dr.) II. Belosztalyanak (foorvos: Goth Endre dr.) es IV. Belosztalyanak (foorvos: Farkas Gyorgy dr.) kozlemenye.
(EPIDEMIC HEMORRHAGIC FEVER diag.)

ESZEKI, Tamas

Replacing rear wheel bearings of tractor plows by Hofherr's front bearings. Mezogazd techn 5 no.3:26-27 '65.

ESZENYI, Janos, munkasvedelmi felugyelo

Labor safety situation at the Zahony railroad station. Magy vasut 7 no.12:4 17 Je '63.

ESZENYI H. M. Fejfajas Headache Orvosok Lapja, Budapest 1949, 5/8 (241-246)
Tables 1 Illus. 8

The mechanism of headache is explained in four ways: (1) Dilatation of the arteries inside and outside the skull; (2) stretching and traction of the vessels inside the skull; (3) spasm and oedema of the muscles of the skull and neck; (4) excitation of sensitive nerves and pain-sensitive structures, in consequence of inflammation or pressure. The following classification of headaches is given: (1)Intracranial; (2) extracranial; (3) internal-organic; (4) psychic; (5) vascular diseases. This last group deals in particular with the problem of the pathogenesis of mirgraine, and recalls its basic symptoms: (1) Periodicity; (2) cephalalgia; (3) gastro-intestinal dysfunction; (4) cortical disturbance; (5) familial occurrence. Three different phases can be distinguished: (1) Vasocontriction; (2) dilatation; (3) oedema. The histamine cephalalgia can be sparated from the migraine syndrome on the basis of orgin of the symptoms, of the mechanism and of the drug effects. Furthermore the desensibilization method used in the therapy of headaches and the theory of the histamine effect is discussed. The author used the method on 100 patients, and the results were as follows: full and partial remission in 85%, slight improvement in 10%, and no effect in 5%. Based on these results the treatment is recommended in all obstinate relapsing cases, all the more as the method has no harmful effect.

De Lehoczky - Budapest

SO: Neurology & Psychiatry Section VIII Vol 3 No 7-12

ESZENYI HALASY, M.

New view points in the treatment of Meniere's disease and trigeminal neuralgia. Orv. hetil. 93 no. 22:648-650 1 June 1952. (CLML 23:3)

1. Doctor. 2. Neuropathological Department (Head Physician — Prof. Dr. Tibor Lehocsky), Istvan Hospital, Budapest.

BEZSENYI-HALASY, M.; LEHOCZKY, T.

Migraine and brain tumor. Acta med. hung. 4 no. 1:93-104 1953. (CIML 24:2)

1. Neurological Department of Istvan Hospital, Budapest.

HASKO, Ferenc; BERGHAMMER, Antal; ESZES, Lajos; KATONA, Janos

Preparation of printed ciruits; also, remarks by A.Berghammer, L. Eszes, and J.Katona. Muszaki kozl MTA 26 no.1/4:299-300 '60.
(EEAI 9:10)

1. Orion Radiogyar (for Hasko)
(Printed circuits)

ESZTERGALY, F.

ESZTERGALY, F. - No. 14, Summer 1954. - Hungarian Heavy Industries

Gas producer plants. p. 3.

SO: Monthly list of East European Accessions, (EEAL), LC, Vol. 4, No. 9, Sept. 1955 Uncl.

ESZTERGALYOS, G.

Developing cable-making machines. p. 28.

HUNGARIAN HEAVY INDUSTRIES. (Magyar Kereskedelmi Kamara) Budapest, Hungary, No. 26, Summer 1959.

Monthly List of East European Accessions (EEAI) LC, Vol. 9, no. 1, Jan. 1960.

Uncl.

ESZTERGAR, Pal, fotervezo

Application of incandescent lamps with internal mirroring.
Villamossag 12 no. 2: 49-53 F '64.

1. Vegyimuveket Tervezo Vallalat.

ESZTO, M.

1ST AND 2ND ORDERS

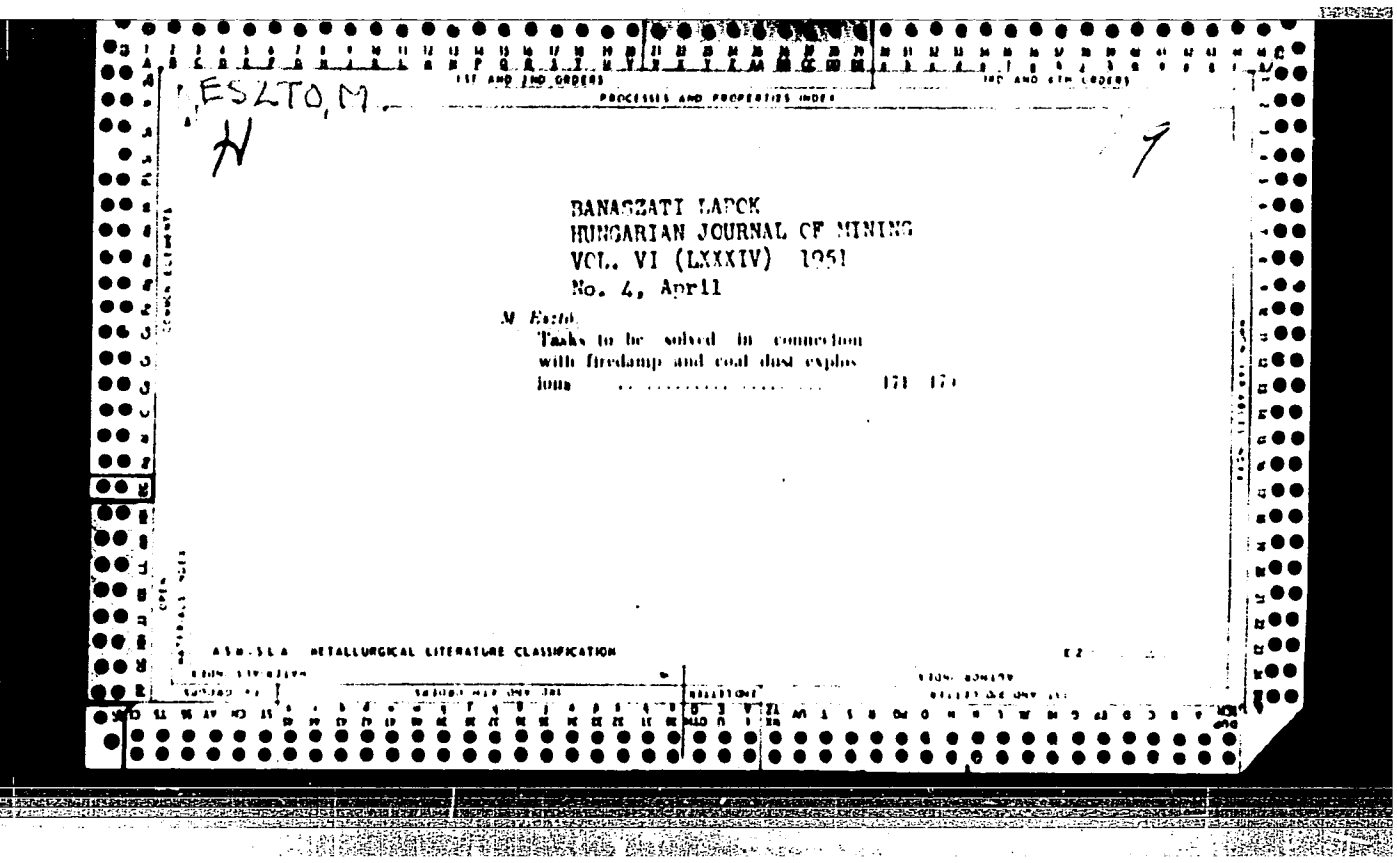
PROCESSES AND PROPERTIES INDEX

50 Support systems in longwall workings of flat coal seams and up-to-date timbering units, by M. [illegible] (Bányászati és Kohászati Lapok" [illegible] Journal of Mining and Metallurgy, Vol. 5, (LXXXIII) No. 1, pp. 3-11, Jan., 1950)

Compared to other systems longwall cutting [illegible] a greater output and is more economical. The method should be adopted where the strata are [illegible] located and, especially, in places where the coal [illegible] are inferior to 95 m. However, care must be taken to keep the working space open by means of proper safety measures. A detailed and thorough theoretical discussion deals with the various methods of propping, the [illegible] placed on the ground and on the side walls of the [illegible] veins, furthermore, precautions should be taken [illegible] any anticipated cracks; consequently, the employment of up-to-date safety installations is particularly [illegible].

Bibliography.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



BANASZATI LAPOK
HUNGARIAN JOURNAL OF MINING
VOL. VI (LXXXIV) 1951
No. 4, April

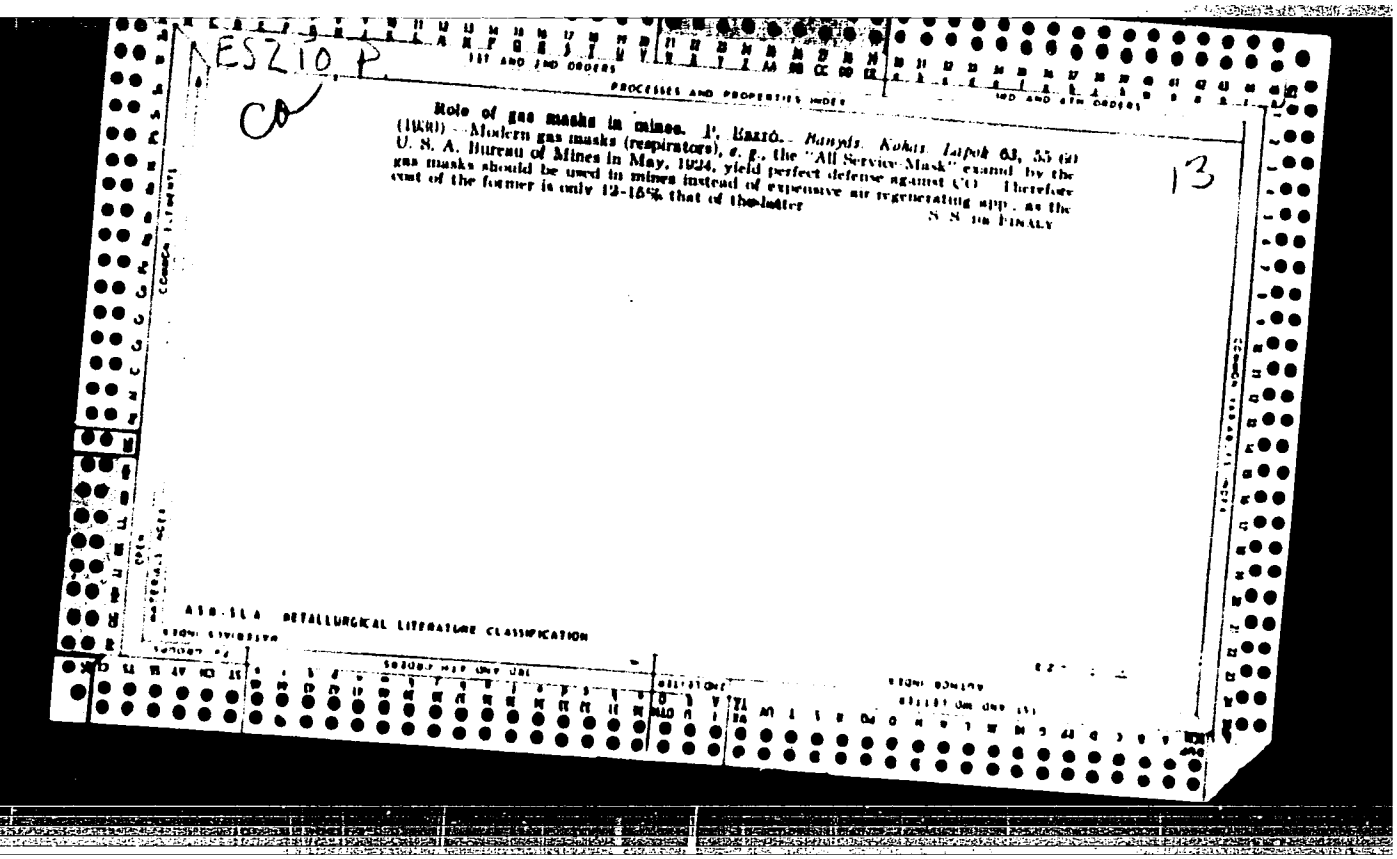
M Eszt.
Tasks to be solved in connection with firedamp and coal dust explosions 171 177

H.J.A. ESZTO, N.

622.812 .811 622.33

26. Classification of coal mines from the standpoint of firedamp and coal dust explosion hazards — *A szén-bányák sujtólég- és szénporveszélyesség szempontjából történő osztályozása* — by N. Eszto. (Hungarian Journal of Mining — *Bányászati Lapok* — Vol. VI (LXXXIV), No. 5, pp. 256—259, May 1951)

Coal seams in Hungarian mines differ greatly from each other in respect to methane occurrences, to the quantities of methane set free during winning, to coal dust explosion hazards, and to the amount of inflammable volatile components. These differences are frequently observed even in coal seams of the same geological age. For efficient accident prevention a uniform classification is suggested for the utilization of electrical installations and for checking the ventilation equipment. Three possibilities may serve as a basis for the realization of this proposal, i. e. (1) the amount of methane yielded per ton of coal produced, (2) the content of volatile components, and (3) the degree of coal dust explosion hazard. In classifying coal mines the above mentioned factors are considered separately as well as interdependently.



P. ESZTO 2/2

a measuring nozzle the time for the pressure reduction be established. By means of the data on time thus obtained, air losses and the capacity of the piping can be redetermined.

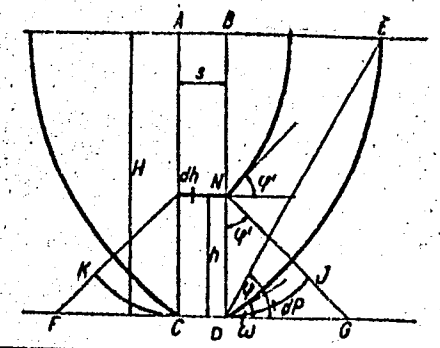
[illegible] of air condition in the shaft at Zobák — *A zobáki aknamélyítés bányaklíma kérdései.* — P. Esztó. (Hungarian Journal of Mining — *Bányászati Lapok* — Vol. 8 (56), 1953, No. 9, pp. 429—436)

It is of utmost importance that air conditions be investigated at the planning stage of the projected 600 m deep shaft to be sunk at *Zobák*. The three factors which influence air conditions in mines are the temperature, the humidity and the air velocity. The temperature is increased by compression heat, rock heat, oxidation heat as well as by the heat produced by mining machinery and rock movements. Humidity, silting, compressed air and other factors reduce the temperature. The quantity of heat resulting from the compression of incoming air can be computed. For the calculation of rock heat emanating during a unit of time a formula may be used in which the heat transfer surface, the time and factors of heat conduction and heat transmission figure. The mined coal, the oxidation of the rocks, the mining machinery, rock pressure, labour, miners' lamps, the use of explosives all serve to increase the temperature, the values of these factors can be computed separately. The humidity equals $637\,q$ kal per hour per ton output, where q = the quantity of ventilating air in cu m. The refrigerating capacity is directly proportional to the cubic root of air velocity. After having determined all the factors which tend to increase or reduce the temperature the heat balance can be established. On the basis of the heat balance it is possible to calculate the air requirements in mines which in case of a 3.000 ton daily output will amount to approx 5,000 cu m per min.

HUNG

65. Complement to the theory on rock pressure — P. Eszto. (*Bányászati Lapok* — Vol. 9(87), 1954: No. 4, pp. 397—399, 2 figs. 4 tabs.)

Since the publication, 14 years ago, of the first paper on rock pressure and rock movement by the author it became evident that the transferred pressure, respectively the modified stress, exceeds that arrived at by theoretical calculations. Some researchers have raised the objection that the theory does not take a sufficient number of petrophysical characteristics as a starting point, while others that the uniform distribution of transferred rock weight has not been proved. Both



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(OVER)

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viewpoints are justified since it is not likely that the transferred rock weight would be uniformly distributed along the sections denoted by FC DG in the figure, a uniform distribution is more apt to take place along the area KC DJ. Therefore, the starting point of the theory has been modified in such a manner that the weight of a zone of unit length and width and of differential thickness of a rock column having lost its support is uniformly distributed along the section between the normals where it causes an increase in the stress on the surface unit which can be expressed by an integral. This integral, however, cannot be solved directly, therefore the author applied an indirect solution i.e. a differential function was computed for various widths and depths of the cavity as well as the value of the integral at the limit values of the above factors on the basis of the total area of the zones. The results are given in charts. From the data appearing in the charts it can be established that the results of the complicated integration can be expressed by a simple formula giving adequate accuracy within certain limits. The new formula yields higher values for the transferred stress than the old one, still, at the same time it can be ascertained that although the stress is greater at the side of the cavity, it diminishes rapidly towards the interior of the rock.

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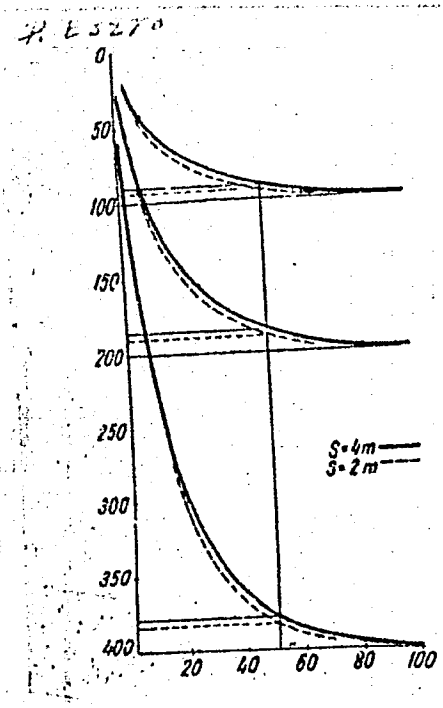

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The figure shows the percentile increase from the surface to the cavity of the stress transferred, due to the establishment of a 2 respectively 4 m wide mining area at various depths and at a 58° angle of rupture. It can be seen from the diagrams that the directly overlying strata have a decisive influence on the extent of the stress. In completing his theory the author established that the transferred stress is greater than that obtained by his original formula and that it is uniformly distributed along an arc, consequently its range of action diminishes.

ESZTO, Peter, dr., okleveles banyamernok, a muszaki tudomanyok doktora, Kossuth-dijas nyugalmazott egyetemi tanar

Dimensioning of belt conveyors. Bany lap 93 no. 10: 657-659 O '60.

ETCHIN, G.

For lower production and marketing costs. Fin.SSSR 18 no.9:66-67 S '57. (MIRA 10:10)

1. Nachal'nik finansovogo otdela Magadanskogo sovnarkhoza.
(Magadan Province--Finance)

MITEL'MAN, Ye.L.; SOLODOVNIKOV, V.Ya.; STEPANOV, A.Ya., retsenzent; BROUN, M.L., retsenzent; ETCHIN, G.A., redaktor; MATVEYEVA, Ye.N., tekhnicheskiy redaktor; TIKHONOV, A.Ya., tekhnicheskiy redaktor.

[Financial operations in machine construction plants] Finansovaia deiatel'nost' mashinostroitel'nogo zavoda. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. i sudostroit. lit-ry, 1954. 219 p. [Microfilm] (MLRA 8:1)

(Machinery industry--Finance)

ETCHIN, S.G., inzh.

Safety brake pedal on electric locomotives. Bezop.truda v prom. 9 no.4:49-50 Ap '65. (MIRA 18:5)

ETCHIN, S.G.

Instrument for the automatic stopping of an electric locomotive attended by a single worker. Gor.zhur. no.10:76 O '64.
(MIRA 18:1)

1. Glavnyy energetik kombinata Bashkirugol'.

ETCHIN, S.G., inzh.

Improvement of the hoisting winch motor of the SE-3 excavator. Prom. energ. 20 no.11:33 N '65.

(MIRA 18:11)

ETEL'BERG, M.R. (Tartu, Estonskaya SSR)

Use of adder venom in treating chronic infectious arthritis.
Vrach.delo no.3:307-308 Mr'58 (MIRA 11:5)

1. Gorodskaya klinicheskaya bol'nitsa (nauchnyy rukovoditel' zav. kafedroy fakul'tetskoy terapii Tartuskogo universiteta dots. K. Kyrge).
(VENOM)
(ARTHRITIS)

ETLIS, S.G.; CHIRKOV, N.M.

Adsorption of hydrogen chloride and hydrogen bromide by aqueous solutions of orthophosphoric acid. Zhur. fiz. khim. 30 no.11:2568-2579 N '56. (MLRA 10:4)

1. Akademiya nauk SSSR, Institut khimicheskoy fiziki, Moskva.
(Absorption) (Hydrochloric acid) (Hyirobromic acid)

ETENKO, V., arkhitektor

Standards for designing and building staircases and elevators. Zhil. stroi. no.10:30-32 '54. (MIRA 18:4)

ETENKO, V., arkhitektor

Types of apartments in countries of Northern Europe. Zhil. stroi. no.11:27-30 '64 (MIRA 18:2)

ETCHIN, S.G.

Concerning the consolidated regulations governing the technical operation of electrical systems. Prom. energ. 19 no.5:37 My '64. (MIRA 17:6)

1. Glavnyy energetik kombinata Bashkirugol'.

ETENKO, V., kand. arkhitektury

Determining the qualitative level of an apartment. Zhil. stroi. no.8:14-15 '65. (MIRA 18:8)

L 00971-66

ACCESSION NR: AR5015932 UR/0299/65/000/011/M018/M018
577.99

SOURCE: Ref. zh. Biologiya. Svodnyy tom, Abs. 11M113 16
B

AUTHOR: Plotnikov, V.I.; Sklyarov, P.M.; Eteriya, G.P.

TITLE: Biological and plastic properties of frozen pericardium

CITED SOURCE: Sb. Materialy Vyyezdn. nauchn. sessii N.-i. in-ta klinich. i eksperim. khirurgii MZ RSFSR sovmestno so Stavropol'sk. med. in-tom, 1964. Stavropol'-na-Kavkaze, 1964, 59-61

TOPIC TAGS: tissue transplant, thoracic surgery, dog

TRANSLATION: Pericardia of young dogs, killed by electric current, were placed 2 hr after death in a sterile flask filled with No. 199 medium and 10% of homoserum with addition of 1 - 1½ ml of a 15% glycerin solution. The pericardia were frozen at -183°C and stored at -25°C for 5 days. The tissue was then cultivated in Carrel dishes containing 2-2.5 ml of liquid phase (10% homoserum, 90% of No. 199 medium and 50 units/ml of penicillin solution) in a thermostat at 37°C. The most

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intensive growth of the tissue was observed on the third day. In the experiments with animals in replacing defective pericardia, diaphragms, and bronchial stumps, the frozen pericardia showed satisfactory plastic properties. N. S.

SUB CODE: LS ENCL: 00

Card 2/2

ETERLEY, N.

Strengthen the technical schools. Prof.-tekh. obr. 13 no.11: 10-12 N '56. (MLRA 9:12)

1. Prepodavatel' tekhnicheskogo uchilishcha no.7, Novocherkassk.
(Technical education)

ETERLEY, Nikolay Semenovich; NIKITINA, V.M., red.

[Transformers and electrical machinery] Transformatory i elektricheskie mashiny. Izd.2., perer. Moskva, Izd-vo "Kolos," 1964. 278 p. (MIRA 17:6)

KOVALENKO, P. P., prof. (Rostov-na-Donu, Khalturinskiy per., d. 20, kv. 47; ETERIYA, G. P.

Plastic repair of defects of the diaphragm using frozen pericardium. Vest. khir. no.2:49-54 '62. (MIRA 15:2)

1. Iz torakal'nogo otdeleniya kliniki obshchey khirurgii (zav. - prof. P. P. Kobalenko) Rostovskogo meditsinskogo instituta.

(DIAPHRAGM--SURGERY) (PERICARDIUM--TRANSPLANTATION)

L 60882-65

ACCESSION NR: AR5015934 UR/0299/65/000/011/M020/M020
611.018-089.843

8
B

SOURCE: Ref. zh. Biologiya. Svodnyy tom, Abs. 11M125

AUTHOR: Kozlov, V. V.; Sklyarov, P.M ; Eteriya, G.P.

TITLE: Use of preserved tissues in thoracic surgery

CITED SOURCE: Sb. Materialy Vyyezdn. nauchn. sessii N.-i. in-ta klinich. i eksperim. khirurgii MZ RSFSR sovmestno so Stavropol'sk. med. in-tom, 1964. Stavropol'na-Kavkaze, 1964, 67-68

TOPIC TAGS: plastic surgery, thoracic surgery, hernia, tissue transplant

TRANSLATION: Fascia was used for plastic surgery of bronchial stumps in 17 patients 5 to 65 years of age. In 23 patients pericardia frozen at -25 and -183°C were used. Two patients developed fistulae when the bronchial stump sutures were made without stitching instruments. Using the UKB-25 stitching instrument without plastic covering with frozen tissue, 10 out of 83 patients developed fistulae. In closing a hernia opening or duplicating a diaphragm during relaxation in 11 patients

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ACCESSION NR: AR5015934

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the site of the sutures was covered with frozen tissue. The edges were attached to the diaphragm in a form of a patch. No complications were observed during the following three years. In 5 patients removed ribs were replaced with frozen ribs and cartilage. Satisfactory results were observed over a two-year period following the operations. N.S.

SUB CODE: LS ENCL: 00

Card 2/2

ETERLEY, Nikolay Semenovich; POTEKHIN, Aleksey Andreyevich; SHKOL'NIKOV, A.B., red.; DEYEVA, V.M., tekhn.red.

[Electric machinery] Elektricheskie mashiny. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1960. 299 p. (MIRA 13:6)
(Electric machinery--Study and teaching)